

# NETWORKING, SECURITY AND SYSTEM ADMINISTRATION - ENTERPRISE NETWORKING ASSOCIATE IN SCIENCE AND CERTIFICATE OF ACHIEVEMENT



See *Business Office Technology* for specific Microsoft applications (Word, Excel, PowerPoint, etc.).

## Networking, Security and System Administration

These degree programs prepare students for careers in computer networking or system administration and related fields. Upon completion, students may find entry level positions as computer support technicians, junior network administrators, junior system administrators, hardware technicians, data/voice/video cabling technicians, network project managers, designers/estimators or technical support personnel. The major prepares students to work as team members in an information technology group which designs, evaluates, tests, installs and maintains corporate networks. Preparation for the following industry certifications: A+, Network+, Security+, Linux+, Microsoft Certified Technician (MCT) in Windows and Windows Server (active directory, network infrastructure and applications infrastructure), Linux Profession Institute Certification Level 2, Certified Wireless Network Administrator (CWNA), Cisco Certified Network Associate (CCNA), Certified Ethical Hacking (CEH).

## Career Opportunities

Communications Specialist  
 Computer Game Programmer  
 Computer Hardware Specialist  
 Computer Help Desk Technician  
 Computer Maintenance Technician  
 Computer Software Technician  
 Computer Support Specialist  
 Computer Systems Analyst<sup>1</sup>  
 Computing Analyst<sup>1</sup>  
 Cyber Security Specialist  
 Database Manager<sup>1</sup>  
 Information Specialist  
 Information Systems Programmer<sup>1</sup>  
 LAN/WAN Manager  
 Manufacturer's Representative  
 Network Administrator  
 Network Analyst<sup>1</sup>  
 Network Consultant  
 Network Control Technician  
 Network Training and Support Specialist  
 Programmer Analyst<sup>1</sup>

Sales and Service  
 Scientific Programmer<sup>1</sup>  
 Software Consultant  
 Software Developer<sup>1</sup>  
 Systems Analyst<sup>1</sup>  
 Systems Programmer<sup>1</sup>  
 Technical Support Representative  
 Telecommunications Programmer<sup>1</sup>  
 Telecommunications Technician  
 Telecommunications Technical Engineer<sup>1</sup>  
 Training Specialist  
 Web Designer  
 Web Developer

<sup>1</sup> Bachelor Degree or higher required.

## Similar Course List

The following Cuyamaca and Grossmont College courses are considered similar enough to be accepted in the major for local computer science degrees in the district. Modification of Major forms are not required.

| Cuyamaca Course | Similar Grossmont Course |
|-----------------|--------------------------|
| CIS-140         | CSIS-180                 |
| CIS-190         | CSIS-112                 |
| CIS-191         | CSIS-113                 |
| CIS-211         | CSIS-132                 |
| CIS-213         | CSIS-133                 |
| CIS-215         | CSIS-135                 |
| CS-119          | CSIS-119                 |
| CS-181          | CSIS-296                 |
| CS-182          | CSIS-293                 |
| CS-281          | CSIS-297                 |
| CS-282          | CSIS-294                 |

## Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Install, configure, upgrade, diagnose and troubleshoot a personal computer and its associated networking hardware and software in accordance with industry standards.

## Associate in Science Degree Requirements

| Code                    | Title  | Units |
|-------------------------|--|-------|
| <b>Core Curriculum</b>  |  |       |
| CIS-120                 | Computer Maintenance and A+ Certification          | 3     |
| CIS-121                 | Network Cabling Systems                            | 3     |
| CIS-125                 | Network+ Certification                             | 3     |
| CS-119                  | Program Design and Development                     | 3     |
| CS-119L                 | Program Design and Development Lab                 | 1     |
| <b>Area of Emphasis</b> |  |       |
| CIS-190<br>or CIS-191   | Windows Operating System<br>Linux Operating System | 3     |
| CIS-201                 | Cisco Academy - Introduction to Networking         | 3     |

|                                |  |                |
|--------------------------------|--|----------------|
| CIS-202                        | Cisco Academy - Routing, Switching, and Wireless Essentials                  | 3              |
| CIS-203                        | Cisco Academy - Enterprise Networking, Security, and Automation              | 3              |
| CIS-209<br>or CIS-263          | Cisco CyberOps<br>Fundamentals of Network Security                           | 3              |
| Select three of the following: |  | 6.5-10         |
| CIS-101                        | Fundamentals of Information Technology                                       |                |
| CIS-210                        | Cisco Networking Academy - Voice   |                |
| CIS-261                        | NSSA Degree Capstone   |                |
| CIS-264                        | Ethical Cybersecurity Hacking  |                |
| CIS-265                        | Computer Forensics Fundamentals  |                |
| CIS-271                        | Palo Alto Networks - Certified Network Security Administrator (PCNSA)        |                |
| CIS-272                        | Palo Alto Networks Firewall Configuration, Management, and Threat Prevention |                |
| <b>Total Units</b>             |  | <b>34.5-38</b> |

Plus General Education Requirements (<https://catalog.gcccd.edu/cuyamaca/degree-requirements-transfer-information/>)

## Certificate of Achievement

Students who complete only the courses required for the major including an area of emphasis qualify for a Certificate in Networking, Security and System Administration - Enterprise Networking. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.